

METHOD FOR FABRICATING SHALLOW TRENCH ISOLATION BETWEEN DEEP TRENCH CAPACITORS

Abstract

The present invention studs oxide dielectric into trench capacitor top recesses after the formation of the trench capacitor structures. A thin (500Å) cap buffer nitride is then deposited over the substrate. The studded dielectric and the collar oxide protect the trench capacitors during the subsequent selective dry etching, thereby forming isolation trenches having an approximately T-shaped cross section between the trench capacitors within the memory array area of the semiconductor chip.